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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/829,831 | 04/10/2001 | Elizabeth Shriberg | SRI/4316 | 1269 |

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| EXAMINER |
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ALBERTALLI, BRIAN LOUIS

| ART UNIT | PAPER NUMBER |
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2626

DATE MAILED: 07/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/829,831

Applicant(s)

SHRIBERG ET AL.

Examiner

Brian L. Albertalli

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22-24 is/are allowed.
- 6) ☒ Claim(s) 1,7-11,17-21 is/are rejected.
- 7) ☒ Claim(s) 2-6 and 12-16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendments to the claims have been entered. Claims 22-24 have been added.

Response to Arguments

2. Applicant's arguments filed May 30, 2006 have been fully considered but they are not persuasive.

The Applicant's arguments misconstrue the Examiner's application of Nitta et al. to the present claims. Specifically, the Applicant relies on Nitta's teaching that the discriminator (Fig. 3, 5A) receives a plurality of calculated similarity metrics (S1(k), S2(k)...) to make a final recognition result (see page 1, final paragraph of Applicant's arguments). Thus, the Applicant argues, Nitta et al. teach a method that provides similarity measurements to a speech recognizer and does not teach providing an endpoint signal to the speech recognizer.

A review of the independent claims, however, reveals that the claims only require "providing an endpoint signal and the speech signal to a speech processing application to facilitate further processing of the speech signal". Thus, it is not a requirement of the claims to provide the endpoint signal and the speech signal to a speech recognizer, but only to some type of "speech processing application" that provides "subsequent processing".

Equivalently, Nitta et al. disclose providing a speech signal, i.e. the LPC coefficients of the input speech signal CMij, (see Fig. 3 and column 7, line 66 to column 8, line 11) as well as an endpoint signal, i.e. word frame boundary intervals F1, B1, B2 (Fig. 3, 3A, column 7, lines 46-65) to the pattern match detector 3A. The pattern match detector then performs "subsequent processing of the speech signal" by using the input speech signal CMij and the word frame boundary intervals F1, B1, B2 to calculate the similarity metrics.

As was outlined in the previous rejection, it is the pattern match detector 3A that receives the "endpoint signal" (word frame boundary intervals) and the "speech signal" (CMij) to perform "subsequent processing of the speech signal". Clearly, any processing by the pattern match detector 3A is "subsequent processing of the speech signal".

3. Therefore, for the reasons given above, the previous rejections are maintained.

Allowable Subject Matter

4. As indicated in the previous Office Action (mail date February 27, 2006) claims 2 and 12 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Furthermore, since newly added claims 22-24 present claims 2 and 12 in independent form, claims 22-24 are allowed. See Reasons for Allowance in the

Allowable Subject Matter section of the previous Office Action (mail date February 27, 2006)

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 7-11, and 17-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Nitta et al. (U.S. Patent 4,881,266).

In regard to claims 1, 11, and 21, Nitta et al. disclose a method, apparatus, and electronic storage medium for processing a speech signal comprising:

extracting prosodic features from a speech signal (Fig. 4, sound powers are extracted from the input speech signal, column 4, lines 41-51; the loudness of an input speech signal is a function of the power of the input speech signal);

modeling the prosodic features to identify at least one speech endpoint (a word boundary is determined when the sound power drops below a predetermined threshold for a predetermined number of frames, column 6, lines 30-42; this modeling, therefore, is related to the prosodic features of loudness and timing);

producing an endpoint signal corresponding to the occurrence of at least one endpoint (word frame intervals are sent to the pattern match detector, Fig. 3, 3A, column 7, lines 46-65); and

providing the endpoint signal and the speech signal to a speech processing application to facilitate subsequent processing of the speech signal (word frame intervals are sent to the pattern match detector, Fig. 3, 3A, column 7, lines 46-65; in addition to the LPC coefficients of the input speech signal, see Fig. 3 and column 7, line 66 to column 8, line 11).

In regard to claims 7 and 17, Nitta et al. disclose the producing step comprises generating a posterior probability regarding the at least one speech endpoint (Fig. 5, likelihood calculator 24 determines the probability of the frame intervals, column 7, lines 46-65).

In regard to claims 8 and 18, Nitta et al. disclose the posterior probability includes a probability that a user has completed an utterance (likelihood calculator 24 determines the probability of ending candidates B1 and B2, column 7, lines 46-65).

In regard to claims 9 and 19, Nitta et al. disclose the posterior probability is continuously updated as the speech signal is processed (incoming groups of frames are continuously compared to the sound power threshold to update the likelihood of the ending points, column 7, lines 29-44).

In regard to claims 10 and 20, Nitta et al. disclose executing a speech recognition routine for processing the speech signal using the at least one speech endpoint (Fig. 3,

pattern match detector 3A and discriminator 5A recognize the input speech, column 4, lines 19-30).

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian L. Albertalli whose telephone number is (571) 272-7616. The examiner can normally be reached on Mon - Fri, 8:00 AM - 5:30 PM, every second Fri off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BLA 7/11/06


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